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writer of this note earnestly implores all concerned to examine cautiously their ground before hurrying onward. Perhaps Mr. Peet is a little too fond of the old explorers and a little to hard on Mr. Thomas and Mr. Carr. However that may be, it can do no harm to put the gentlemen on their guard.

PEABODY MUSEUM.—The 16th and 17th annual reports of the trustees of the Peabody Museum, forming Nos. 3 and 4, of Vol. III, contains the following anthropological papers:

Report of the Curator.
List of Additions to the Museum and Library.
Social and Political Position of Women among the Huron Iroquois Tribes. By Lucien Carr, Assistant Curator.
Human Remains from Caves in Coahuila, Mex. By C. A. Studley.
The White Buffalo Festival of the Uncpapas. By Alice C. Fletcher.
The Elk Mystery of the Ogallala. By Alice C. Fletcher.
Ceremony of the Four Winds by the Santee Sioux. By Alice C. Fletcher.
The Shadow or Ghost Lodge; an Ogallala Ceremony. By Alice C. Fletcher.
The Pipe Dance of the Omahas. By Alice C. Fletcher.
XVIIth Report of the Curator, with lists of additions.
Report on Meteoric Iron from Mounds, etc. By L. P. Kinnicutt, Ph.D.

The report of the curator is one of his best, dwelling with special fullness on his explorations in the mounds at Madisonville, Ohio. With reference to the large mounds near cemeteries the author is led to suspect that they are simple monuments marking burial sites. The spool-shaped copper ornaments found in collections are identified as earrings. But the most notable revelation is that with reference to the discovery of wrought meteoric iron. This may lead to the revision of some late discoveries.

Mr. Carr, having examined the literature of the subject, comes to the conclusion that "the Indian woman was not the overworked drudge she is usually represented to have been."

The most fascinating part of the report is that containing the papers of Miss Fletcher. A young woman of rare intelligence, filled with benevolence, and thristing for knowledge, lives for two years in the wigwams of the Omahas and Sioux for the double purpose of doing them good and of learning their social condition. We have no doubt she was successful in the former, we are certain of her complete success in the latter. Indeed, some of the rites mentioned in Miss Fletcher's papers are for the first time described and illustrated.

The long lists of donations and accessions to the collection show how complete has been the success of the Peabody Museum.

MICROSCOPY AND HISTOLOGY.[1]

MOUNTING AND PHOTOGRAPHING SECTIONS OF CENTRAL NERVOUS SYSTEM OF REPTILES AND BATRACHIANS.—Dr. J. J. Mason describes the methods he employed in mounting the sections from which the plates illustrating his book[2] were "artotyped.

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[1] Edited by Dr. C. O. WHITMAN, Mus. Comp. Zool., Cambridge, Mass.

[2] Minute Structure of the Central Nervous System of certain Reptiles and Batrachians of America, 1879, 1882. cf. III, p. 910.

Both the brain and spinal cord were entirely separated from the body, and, with their membranes, placed in iodine-tinted alcohol until they had acquired a slight degree of consistency—from six to twelve hours. They were then transferred to a 3: 100 solution of bichromate of potash, with a small piece of camphor, in a tightly-corked wide-mouthed bottle, and allowed to remain until ready for cutting, renewing the solution every two weeks.

The time required for the hardening process varies considerably in different animals, and this variation is more dependent upon the class of animal, than upon the relative dimensions of the specimens.

For example, on the same day I placed the brain of a large rattlesnake with that of a small salamander in the same bottle, and at the end of six weeks the former was ready for section, whilst the latter was not sufficiently hard until a month afterwards. By thus employing the same reagent in all cases, I have been able to note constant differences in the action of both the hardening and the coloring agent, carmine.

Perhaps the most striking illustration of this is furnished by the nervous centers of tailed batrachians, which, while they stain very readily, invariably require about a third more time to harden than specimens from the other orders. Specimens from ophidians stain less satisfactorily than those from any other of the classes which I have studied, while with the spinal cords of alligators, turtles, and frogs, failure to obtain good results in this particular is very rare.

In all cases the sections have been stained after cutting, injury from excessive handling being wholly avoided by the use of siphon tubes to remove the alcohol and washings. For producing transparency, oil of cloves has been used, and the mounting has been done under thin, clear covers, in a solution of Canada balsam in chloroform.

All the negatives have been made on glass thoroughly cleaned and lightly coated with a solution of wax and benzole, so that the collodion film, previously made adherent to thin sheets of gelatine, could be safely removed from the plate. The flexible negatives thus obtained are well adapted to the artotype process, and, as they can be indefinitely preserved between the leaves of an ordinary scrap-book, are very desirable for a series of illustrations. In making the original negatives on glass, the 'wet collodion process,' with the sulphate of iron developer, has been exclusively employed.

The prints correspond exactly with the negatives, both in outline and detail. No distinction occurs as in silver printing in which process the paper is subjected to prolonged washing.

In many of the photographs the gray substance appears lighter in shade than the white substance. This appearance is due to a greater degree of transparency of the gray substance in these sections, resulting from the action of the oil of cloves, followed by an increased action of the transmitted light on the sensitive collodion film of the negative, and hence by a thinner deposit of ink over corresponding parts of the positive plates from which the artotypes are printed.

With regard to the process employed, Dr. Mason says that after experimenting with various methods he found that satisfactory prints could be made in ink directly upon plate-paper, and that these impressions were as perfect in fine detail as any of those obtained by the silver process of printing. The plates (all printed by the artotype process), are as durable as steel-engravings. While a photograph cannot often show all that can be discovered by more direct microscopic observation with a judicious working of the fine adjustment, high authority has stated, and perhaps correctly, that a good photograph with a low power, say from three to one-half inch, is a better means of illustrating the anatomical structure of the nervous tissues than hand-drawing. Some of the plates with high powers leave much to be desired both in distinctness and tone, and in general it may be affirmed that the same defect as regards distinctness always exists, and for obvious reasons, in photographs of sections with powers much above one-half inch.—*Jour. Roy. Mic. Soc.*, IV, *part I, pp. 149, 150.*

A STARCH INJECTION MASS.[1]—A coarse injection mass which is cold-flowing, may be forced nearly to the capillaries, rapidly hardens after injection, leaves the vessels flexible, does not dull dissecting instruments, is suitable for permanent dry or alcoholic preparations, is simple in its manipulation, cleanly and economical, seems to be fully realized in the starch mass introduced by Ad. Pansch, of Kiel, and since recommended, with various modifications, by Wikszemski, Dalla Rossa, Meyer, and Browning.[2]

As starch is insoluble in alcohol and cold water, it becomes hard when injected into the blood-vessels simply by the exudation of the liquid with which it is mixed. (That the starch grains forming the mass remain entirely unchanged may be easily demonstrated by making a microscopic examination of the contents of an injected vessel.)

The mass originally recommended by Pansch consisted of wheat-flour and cold water, to which was added a sufficient quantity of the desired coloring matter. Later experiments have shown that pure starch is better than flour.

[1] By Professor S. H. Gage.

[2] See Ad. Panch, "Archiv. für Anatomie und Entwickl.," 1877, pp. 480–482, and 1881, pp. 76–78; Wikszemski, same Journal, 1880, pp. 232–234; Dalla Rossa, same, pp. 371–377; Herm. von Meyer, same, 1882, pp. 60, 61, and 1883, pp. 265, 266; Browning, "Annals of Anatomy and Surgery," 1884, pp. 24, 25.

MASS FOR ORDINARY INJECTIONS.

Dry starch ("laundry" is good)	1	vol.
2½ per cent aqueous solution of chloral hydrate	1	"
95 per cent. alcohol[1]	¼	"
Color	¼	"

Since almost any animal injected may afford some organ worth preserving, it seems better to employ permanent colors for tingeing the mass. Among those which are available, probably vermilion, red lead, ultramarine, chrome orange, yellow, or green, are preferable.

PREPARATION OF THE COLOR.

Dry color	1	vol.
Glycerine	1	"
95 per cent alcohol	1	"

To avoid lumps, which would clog the cannulæ, or small vessels, the color is thoroughly ground with the liquid in a mortar. It is stored in a well-stoppered bottle, and is prepared for use simply by shaking.

Special Mass.—For the injection of brains, and, perhaps, for other rapidly perishing specimens, it seems best, as suggested by Professor Wilder, to use strong preservatives in preparing the mass:

Corn starch (that used for food)	1	vol.
5 per cent aqueous solution of chloral hydrate	½	"
95 per cent alcohol	¾	"
Color	¼	"

For convenience and economy, a considerable quantity of either of the masses described above may be prepared at once, and kept in a wide-mouthed specimen or fruit jar. A smooth stick in each jar is convenient for stirring the mass, which should always be done just before using. The syringe may be filled directly from the jar, and any mass remaining in the syringe after the injection is finished may be returned to the jar.

If it is desired to have the mass enter very fine vessels, some of the stock mass, as given above, diluted with an equal volume of water or chloral solution, may be injected first, and immediately followed by the undiluted mass, or, for large animals, a mass containing twice the usual amount of starch. In whatever form the starch is used, it is necessary to work somewhat expeditiously, because the exudation of the liquid in the smaller vessels takes place so rapidly that the mass hardens very quickly in them. The larger the vessel, the more slowly, of course, do the exudation and, consequently, the hardening take place. It sometimes happens that large vessels, like the aorta, are not fully distended after the exudation of the liquid. In this case some mass containing double the ordinary amount of starch can be advantageously injected in two hours or longer after the first injection.

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[1] The chloral and alcohol prevent fermentation in the mass when it is kept in stock; the alcohol also increases the fluidity and likewise the more rapid hardening in the vessels; both, of course, act as a preservative upon the animal injected.

Dry Preparations.—Finally, if vessels injected with the starch mass are dissected free, soaked a day or two in Wickersheimer's preservative, and then dried, they retain their form, and, to a great degree, their flexibility.—*From the New York Medical Journal, June 7, 1884.*

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SCIENTIFIC NEWS.

— The Paris Museum of Natural History.—We are accustomed to think that they do things better in France, yet it appears that the troubles which beset American museums are not unknown there. The total sum annually at the disposal of the Muséum d'Histoire Naturelle is but 918,942 francs, or about $180,000. Out of this nineteen professors, fifty-six assistants and a great number of gardeners, draughtsmen, librarians, clerks, secretaries, curators, laboratory helps, etc., as well as the entire cost of maintaining the Jardin des Plantes, with its conservatories and menagerie, have to be paid. Thus, according to M. Freney's report there are no laboratories for the chairs of botany, geology, mineralogy or comparative pathology; only 40,000 francs are available for the purchase of animals; the new zoölogical galleries are unfurnished; there is no botanical gallery, though there is a considerable botanical collection; there are no available funds for the utilization of the ground that has been acquired in the Bois de Vincennes for the purposes of culture; there is no marine zoölogical station attached specially to the museum; the galleries of palæontology and anatomy need improvements; an additional assistant is required to classify the insects and crustacea, and another for the annelids, mollusks and zoöphytes; and the anthropological gallery and library need enlargement. The library has 100,000 volumes, while the gallery which contains it was built to receive 30,000. Moreover, some of the aides-naturalistes ought to have superior positions opened to them, for, as occurs elsewhere, men desert the pursuit of natural history because of the insufficient remuneration it affords.

— A cable despatch announces the death in Vienna, of Ferdinand Von Hochstetter, the noted German traveler and geologist. Herr Hochstetter was born at Esslingen, April 30, 1829. He was the son of a learned clergyman, who designed him for the same profession, but after having taken a course of theology at Tubingen, and received the degree of doctor of philosophy, Ferdinand went to Vienna in 1853, and the following year became attached, in the position of geologist, to a scientific commission sent to Bohemia. On his return he was made professor of geology in the Vienna University, and in 1856 he accepted an offer to accompany the *Novara*, in the capacity of geologist, on the expedition around the world. On his return from this expedition he was made professor of mineralogy and geology in the Polytechnic Institute of Vienna. He afterwards made several voyages, and